REMARKS

The foregoing amendment is submitted to more particularly set forth the claimed invention and to address the comments made by the Examiner in Advisory Action of August 18, 2003. Claim 1 has been amended to provide that the stabilized source of the peroxide and the ozone are administered to the in situ environment under spatial and temporal control conditions as described on page 6, lines 10-13. One of the key features of the present method is the control of the oxidation process brought about by the interaction of the stabilized source of peroxide and the ozone. As indicated on page 6, line 13 and thereafter, one of the benefits obtained by the present method is the elimination of aggressive/violent reactions at the point of injection and the uniform distribution of the reactive species (page 6, line 21) which is brought about by administering the peroxide and the ozone under spatial and temporal control conditions.

The spatial and temporal control conditions are in part generated by the amount of peroxide and ozone but also, for example, by administering the ozone at multiple points in the in situ environment (see claim 19). Another aspect of spatial and temporal control comprises predetermining the concentration of the stabilized source of peroxide and ozone and the number of effective treatment cycle necessary to treat the contaminants in the in situ environment.

New claims 18-20 have been added to cover elements of the spatial and temporal control. Claim 18 is supported in the specification at page 6, lines 14-16 and again at page 9, lines 15-19. The addition of ozone at multiple points is likewise disclosed at page 9, lines 15-19. The predetermining step of claims 20 and 21 is disclosed in the specification beginning at page 13, line 15.

Entry of the amendment to the claims is therefore deemed proper and is respectfully requested.

The method of the present invention comprises treating the in situ environment (e.g. contaminated soil and/or groundwater) with hydrogen peroxide (stabilized) and ozone in a manner which overcome disadvantages associated with prior art techniques. The disadvantages are excessive violent reactions at localized injection sights, acidification of the subsoil, incomplete removal of contaminants and the like. The present method provides spatial and temporal control of the addition of the reactants to provide a uniform distribution of the reactants so that more uniform decontamination can take place of the in situ environment.

The previously cited Elgal reference (U.S. Patent No. 5,663,475) discloses an air stripper for stripping petrochemical contaminants from water and a vapor reactor which treats the vapor phase of the gases being expelled out of the air stripper (column 1, lines 34-38). The purpose of this apparatus is to replace the incinerator present in water treatment plants (column 1, lines 16-19 and line 34).

The entire description of the reference is concerned with the air stripper and related structure as shown in Figure 1.

In the previous Office Action, reference has been made to the statement in Example 2 wherein the process mixture was also applied to soil contaminated with petrochemicals. While Applicant still maintains that the description therein relates to the structure shown in Figure 1, nonetheless, Applicant has amended the claims of the application to make it clear that the presently claimed process is neither anticipated by nor rendered obvious from Elgal even accepting the interpretation of Example 2 applied in the latest Office Action.

Quite clearly, if Example 2 is interpreted to mean the hydrogen peroxide and ozone are injected into ground soil in an in situ process, there is no teaching or suggestion of applying such reactants under spatial intent temporal control conditional in the manner described in the present application which overcomes the disadvantages discussed above (i.e. acidification of subsoil, localized overly aggressive reactions and incomplete treatment). There is no teaching or suggestion in Elgal of any kind of process conditions and certainly no mention or even suggestion of the types of issues discussed and solved by Applicant herein.

In view of the foregoing, Applicant submits that the present application is in condition for allowance and early passage to issue is therefore deemed proper and is respectfully requested.

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It is believed that no fee is due in connection with this amendment. However, if any fee is due, it should be charged to Deposit Account No. 23-0510.

Respectfully submitted,

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